

2017



ANNUAL REPORT

**PROTECTING ARIZONA'S WATER SUPPLIES FOR
CURRENT & FUTURE GENERATIONS**



PROTECTING
ARIZONA'S WATER SUPPLIES
for **CURRENT & FUTURE GENERATIONS**



LETTER FROM THE DIRECTOR

Dear Governor Ducey, President Yarbrough and Speaker Mesnard:

It is a privilege to submit to you the Arizona Department of Water Resources' Annual Report for Fiscal Year 2017 as required by Arizona Revised Statute §45-111. This report includes an overview of the Department's activities and accomplishments between July 1, 2016, and June 30, 2017.

It is our primary mission to ensure that Arizona has long-term, reliable water supplies to support our continued economic prosperity.

I am happy to report that we continue to prove successful in that mission. Despite a lengthy drought that until recently has caused severe water-management issues for other states, Arizona has proved to be a national leader – if not the national leader – in groundwater conservation, water reuse and innovative, and water-saving agricultural best practices. Additionally, no state has a more comprehensive and precise database of its water resources than does Arizona.

Still, we face challenges. We are working with our neighbor-states and Mexico to stabilize the water levels in Lake Mead. We completed negotiations for a new agreement to address potential Colorado River allocation shortfalls with the Lower Colorado River Basin states and Mexico. As always, we took the lead in these complex, multi-party discussions, to assure a stable water supply for Arizona. The negotiated agreement will keep additional water in Lake Mead forestalling a potential shortage declaration. The Department sought and obtained authority to implement the completed agreement from the State Legislature. The concurrent resolution gave the Director the authority to forbear a portion of Arizona's Colorado River supply, keeping it in Lake Mead, propping up water levels, which reduces the chances of a shortage declaration. This water will be available for future use when river conditions improve. We thank leadership and members for unanimously supporting this resolution in a non-partisan, forward thinking, manner that is the Arizona tradition on water management.

The Department is continuing to lead negotiations to help secure Arizona's Colorado River water supply within Arizona. With the support of our in-state partners, we are working in collaboration with the other Lower Basin states of California and Nevada to protect the supplies in the Colorado River.

I am glad to report that, with the support of Governor Ducey, the Department has maximized our response to other water challenges in the State.

In October of 2015, Governor Ducey issued a declaration to the State and called upon the Department of Water Resources to be the conduit. That two-part declaration, the "Governor's Water Initiative," is becoming the primary guideline for achieving greater water-supply stability going forward. This work is on-going.

Following the Governor's lead, the Department has implemented a results-oriented management system, the Arizona Management System, based upon Lean principles. We have completed several process improvement projects. The Department is committed to this continual-improvement process to offer the best services at the lowest cost to the people of Arizona.

It is essential that our State continue to play a prominent role protecting Arizona's Colorado River water supply, managing operations and allocation issues, and protecting Arizona's groundwater and surface water supplies for future generations. The Department is committed to achieving this core mission of protecting Arizona's water supply to support the state's growing economy.

Sincerely,



Tom Buschatzke
Director



OUR VISION

Protecting and enhancing Arizona's water supplies for current and future generations.

It is essential that our State continues to play a prominent role protecting Arizona's Colorado River water supply, managing operations and allocation issues, and protecting Arizona's groundwater and surface water supplies for future generations.





OUR MISSION

The Arizona Department of Water Resources is the steward of Arizona's water future and ensures long-term, reliable water supplies to support the continued economic prosperity of the State.

OUR VALUES

VIGILANCE

We are vigilant in protecting the State's water rights and supplies.

QUALITY

We commit to the highest standards of technical expertise and professionalism.

CONFIDENCE

We build confidence by providing timely services and accurate information, and promoting consensus-based options that create water supply resiliency.

EMPOWERMENT

We encourage employees to be problem solvers.

CONTINUOUS IMPROVEMENT

We strive to innovate, streamline processes, add value and increase productivity.

LEADERSHIP & COLLABORATION

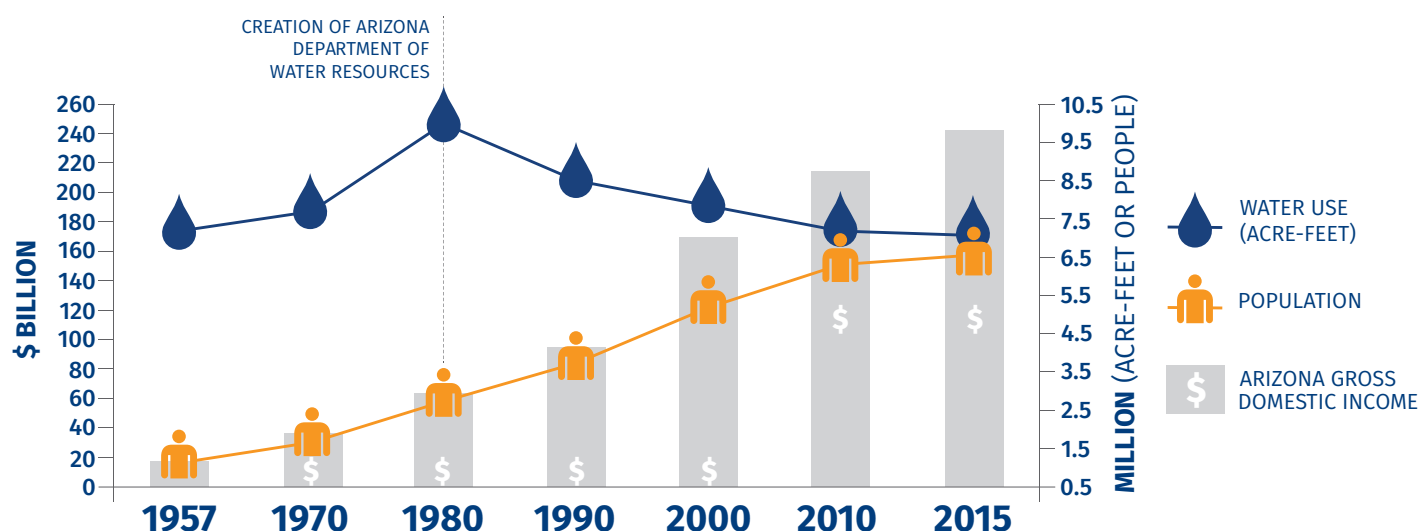
We engage with Arizona's water community and provide leadership in developing innovative solutions to conserve and augment the State's water supplies.

INTEGRITY

We act with integrity.



CAN IT BE THAT ARIZONA USES LESS WATER THAN IN THE 1950s?



BELIEVE IT!

ADWR OPERATIONS

The Arizona Department of Water Resources (ADWR) was created in 1980 in order to implement Arizona's landmark Groundwater Management Code, which was passed that same year by the State Legislature. Overall, the department is charged with the duty to ensure dependable long-term water supplies for Arizona's growing communities.

From its inception, ADWR assumed the "authority, powers, duties and responsibilities" of the Arizona Water Commission and the State Water Engineer relating to surface water, groundwater and dams and reservoirs. A.R.S. § 45-103(A).

Per Arizona Revised Statute, the Director of ADWR "has general control and supervision of surface water, its appropriation and distribution, and of groundwater to the extent provided by this title, except distribution of water reserved to special officers appointed by courts under existing judgments or decrees." A.R.S. § 45-103(B).

Additionally, the Director negotiates with agencies and governments outside Arizona in matters of water. For example, the Director is authorized, for and on behalf of the State of Arizona, to consult, advise and cooperate with the United States on issues related to the Colorado River pursuant to A.R.S. § 45-107.

To carry out its statutory responsibilities, ADWR administers state water laws (except those related to water quality), explores methods of augmenting water supplies to meet future demands and works to develop public policies that promote water conservation.

ADWR oversees the use of surface and groundwater resources under state jurisdiction and negotiates with external political entities to protect and augment Arizona's water supply.

BUDGET FISCAL YEAR 2017

The total ADWR State appropriation for FY 2016 - 2017 is \$15,131,700. This appropriation includes the following amounts:

Operating Lump Sum	\$9,179,300
Special Line Item (SLI) -Adjudication Support	\$1,247,800
SLI-Assured and Adequate Water Supply	\$1,977,300
SLI-Automated Groundwater Monitoring	\$408,700
SLI-Conservation and Drought Program	\$406,900
SLI-Lower Colorado River Litigation	\$500,000
SLI-Rural Water Studies	\$1,161,700
Water Protection Fund Deposit	\$250,000
TOTAL	\$15,131,700

ARIZONA MANAGEMENT SYSTEM IMPLEMENTATION

ADWR has been working to implement the Arizona Management System (AMS), a professional, results-driven management system that focuses on customer value and vital mission outcomes for citizens. The system is based on principles of Lean, a proven people-centered approach that has delivered effective results in both public and private sectors. Lean focuses on customer value, continuous improvement and engaged employees to improve productivity, quality, and service.

Selected ADWR staff participated in an in-depth series of hands-on workshops, trainings and coaching exercises designed to advance AMS implementation. ADWR was one of nine mid-sized state agencies – known as the “Front Nine” – to perform a “whole agency” implementation of the AMS. This is helping ADWR lead the way in achieving Governor Ducey’s vision to be the number one state to live, work, play, recreate, retire, visit, do business, and get an education.

How is ADWR doing? In two words, continuously improving. ADWR is in the process of learning how to most effectively use some of the AMS tools and techniques; however, the department has seen great successes with many areas. Examples include increasing media outreach and public education, as well as improving both the process and the online availability for annual water use reporting for groundwater right holders in the State. Additionally, for the first time in over 12 years, ADWR’s dam-safety engineers met the Department’s goal of completing on-site inspections of all high hazard dams in Arizona (dams where failure would result in loss of life and property).

Over the coming year, ADWR managers and staff will work to continue seeking improvements and efficiencies. This includes listening to customers and stakeholders. ADWR asks that the public let them know about ways to improve. Water Resources is reflecting on its work as an agency and is challenging itself to do more for the State of Arizona.



FIGURE 1. ARIZONA MANAGEMENT SYSTEM PROCESS



COLLABORATIVE EFFORTS ON THE COLORADO RIVER

COLORADO RIVER LOWER BASIN DROUGHT CONTINGENCY PLANNING

In December 2015, the three Lower Basin States of California, Nevada and Arizona (represented by ADWR), along with the U.S. Bureau of Reclamation (Reclamation) developed a Drought Contingency Plan (DCP) to reduce the risk of Lake Mead falling to critical elevations that would lead to draconian reductions in water deliveries. The Lower Basin States agreed to consult with their respective stakeholders regarding possible implementation of the DCP.

Under the DCP, Arizona and Nevada would begin reducing water deliveries earlier than previously agreed. Reclamation would also agree to conserve water in the Colorado River system. Additionally, California would agree for the first time to reduce its deliveries should Lake Mead reach a certain elevation.

During Fiscal Year 2017, ADWR continued with outreach to educate stakeholders and develop a plan to implement the DCP within Arizona. In November 2016, Arizona had developed an implementation plan, referred to as DCP Plus, that allowed for the conservation of additional water in Lake Mead by Arizona water users, beyond that called for in the DCP, to reduce the likelihood of shortages through 2021.

After initially agreeing to the outline of DCP Plus, CAWCD staff raised objections in December 2016. In January 2017, CAWCD staff presented a counterproposal to DCP Plus, based on changes in hydrology, calling for significantly less conservation. The CAWCD counterproposal raised concerns among other Basin States, chief among them a concern that it failed to adequately plan for long-term conservation. ADWR has instead made modifications to DCP Plus, incorporating an adaptive management approach but maintaining the long-term conservation goals.

DEC 2015

DCP DEVELOPMENT

Three Lower Basin States of California, Nevada and Arizona (represented by ADWR), along with the U.S. Bureau of Reclamation (Reclamation) developed a Drought Contingency Plan.

NOV 2016

DCP PLUS DEVELOPMENT

Arizona developed an implementation plan, referred to as DCP Plus, that allowed for the conservation of additional water in Lake Mead.

JAN 2017

DRAFT MINUTE 32X

The negotiating group reached tentative agreement on a draft Minute 32x that continues the provisions of Minute 319 through 2026.

MAR 2017

HOUSE JOINT RESOLUTION

Gov. Ducey signed House Joint Resolution 2002, authorizing the director of ADWR to execute the forbearance agreement if it meets certain conditions and the final form of Minute 32x does not harm Arizona water users.



Lake Mead

Despite delays, ADWR has moved forward to protect Lake Mead. ADWR is continuing to work with stakeholders to reach consensus on DCP Plus by December 2017. Recently, the State of Arizona through ADWR entered into a partnership with Reclamation, the Gila River Indian Community, the City of Phoenix, and the Walton Family Foundation to achieve comparable volumes of conservation to those identified in DCP Plus for calendar year 2017.

MINUTE 32X NEGOTIATIONS WITH MEXICO

In Fiscal Year 2017, representatives of the U.S. International Boundary and Waters Commission (IBWC), Reclamation, and the Basin States continued negotiations with Mexico regarding a minute to the 1944 Water Treaty regarding the Colorado River. Minute 319, which provides for Mexico to share proportionately in Lower Basin shortage and surplus, allows Mexico to create water savings in the Colorado River System in the U.S. Further, it opens up opportunities for U.S. water users to fund conservation projects in Mexico that create Intentionally Created Surplus (ICS) in Lake Mead for the benefit of U.S. water users. Minute 319 will expire in December 2017. Therefore, it is critical to execute a successor minute (Minute 32x) before Minute 319 expires. The Director of ADWR is one of the Basin State representatives participating in the negotiations.

In January 2017, the negotiating group reached tentative agreement on a draft Minute 32x that continues the provisions of Minute 319 through 2026 and provides for a Binational Water Scarcity Contingency Plan in which Mexico agrees to participate proportionately in the Lower Basin's DCP upon its adoption in the U.S. The execution and implementation of Minute 32x will require a series of domestic agreements among the U.S. IBWC, Reclamation, the Basin States, and U.S. water users.

Among those agreements is a forbearance agreement that will allow water users in Arizona, California, and Nevada to benefit from ICS generated through water savings projects they fund in Mexico. On March 2, 2017, Governor Ducey signed House Joint Resolution 2002, authorizing the director of ADWR to execute the forbearance agreement if it meets certain conditions and the final form of Minute 32x does not harm Arizona water users.

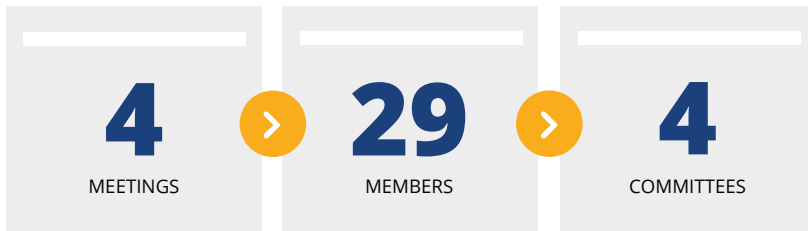
In the spring of 2017, the Basin States and U.S. water users began negotiating the necessary domestic agreements. In July and August 2017, the parties will seek necessary agency approvals of the agreements. The parties intend to execute the domestic agreements concurrently with the execution of Minute 32x between the U.S. and Mexico in September 2017.



ARIZONA WATER INITIATIVE

As the implementation arm of the Arizona Water Initiative, Water Resources is carrying forward Governor Doug Ducey's two-pronged plan to assure the state's water future, long-term by continuing the Arizona legacy of proactive strategic water planning.

The Water Initiative has two missions.



GOVERNOR'S WATER AUGMENTATION COUNCIL

The Governor's Water Augmentation Council, was created to investigate long-term water augmentation strategies and other opportunities to secure water supplies for the future.

The Augmentation Council is comprised of 29 members appointed by the Governor who represent many water use sectors of the state. In this fiscal year, the Council met four times, made significant progress on the recommendations made in the previous annual report by forming the following committees to undertake in-depth evaluation of key issues: Desalination, Finance, Long-Term Augmentation and Recycled Water. The other assigned duty of the Water Initiative was creating a "Planning Area Process."



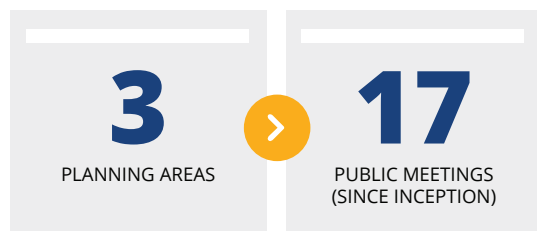
M36 DISCUSSIONS

- > \$25,000 IN ADWR CONTRIBUTION
- > PILOT FOR 6 SYSTEMS
- > CONSULTANT SELECTED
- > KICK-OFF AUGUST 2017

PLANNING AREA PROCESS

The Planning Area Process is designed to involve local stakeholders in development of better water demand information and a consensus driven set of solutions for future supply and demand imbalances that may occur within the Planning Area.

There are 22 Planning Areas identified in the state. ADWR initiated the process in three areas this fiscal year: The West Basins Planning Area, the Cochise Planning Area and the Northwest Basins Planning Area. Water Resources data indicates that those areas are among the regions of the state with intensifying water-related issues.



4 COMMON THEMES HEARD

- > LIMITS ON IRRIGATION
- > NEED TO INCREASE NATURAL RECHARGE
- > MANDATORY METERING & REPORTING OF WATER USE
- > CURRENT GROUNDWATER MANAGEMENT TOOLS MAY NOT SUIT NEEDS

PROVIDED INFORMATION ON:





STAKEHOLDER ENGAGEMENT

Since early in 2016, ADWR has committed to expanding its communications outreach efforts as far as the Internet and our newsletter subscription lists allow us to go in search of Arizonans and others who are eager to learn about how we manage the State's most valuable resource.

Those efforts include a weekly ADWR newsletter – Arizona Water News – that includes up-to-date news and insight into the latest developments in Arizona water issues. In less than two years, Arizona Water News has grown from a handful of subscribers to nearly 3,000. It is the anchor of the department's outreach efforts, attracting readers throughout Arizona and the Southwest, as well as in seven other countries.

In addition, ADWR has aggressively expanded its presence on social media.

Since the launch in June 2016 of ADWR's Facebook and Google+ Page, they have organically reached over 160 readers and viewers. In addition, the YouTube channel has received over 2,500 views. ADWR's Twitter reach has also increased. During Fiscal Year 2017, ADWR's Twitter account received over 764,000 impressions.

634,968
WEBSITE PAGEVIEWS



63
NEWS ARTICLES



56
PUBLIC MEETINGS

COLORADO RIVER MANAGEMENT

The Colorado River is a vital resource to the desert southwest, serving seven states, including Arizona, as well as several Indian tribes and the Republic of Mexico. Arizona's Colorado River supplies provide more than 40 percent of the state's water supply and, as such, are vital to the state's current and future economic development. The Arizona Department of Water Resources is the state entity charged with promoting, protecting, and comprehensively managing Arizona's annual apportionment of 2.8 million acre-feet of Colorado River water. Pursuant to A.R.S. 45-107, ADWR's Director is charged with representing the state of Arizona in negotiations involving its Colorado River allocation.

GLEN CANYON DAM ADAPTIVE MANAGEMENT PROGRAM

The ADWR is a Colorado River Basin States representative to the Glen Canyon Dam Adaptive Management Program, established in 1997. The Grand Canyon Protection Act of 1992 and the 1996 Record of Decision provided a foundation to form this organization and develop a process for cooperative integration of dam operations. As a Basin States representative, ADWR provides policy and technical advisement to the group, representing the state of Arizona's interests. An ADWR staff member has served as the vice-chair of the technical work group of the Adaptive Management Program for FY 2017. Over the past six years, the Department of the Interior, through the Bureau of Reclamation and the National Park Service, has been developing the Long-Term Experimental and Management plan (LTEMP) Environmental Impact Statement (EIS) for the operation of Glen Canyon Dam. ADWR has actively participated in LTEMP meetings to ensure that the positions and views of Arizona's water users in the state are heard. A Record of Decision (ROD) for the LTEMP was signed in December 2016. The decision framework outlined in the ROD includes monthly Glen Canyon Dam operational coordination meetings with the DOI bureaus, and Western Area Power Administration to ensure decisions are made with sufficient information regarding the condition and potential effects on important resources. Pursuant to the ROD, one element of consultation commitment toward the Basin States from the Department of Interior is to have representation from the seven Basin States in these meetings. In this regard, ADWR represents the state of Arizona.

BYPASS FLOWS WORKGROUP IMPLEMENTATION

In 2015, the Bypass Flows Workgroup was convened and co-chaired by the Bureau of Reclamation and ADWR to aid in reducing further decline of Colorado River reservoirs. Evaluation of Water Flows and existing infrastructure in the greater Yuma area resulted in recommendations set forth in the Bypass Flows Workgroup Final Report, dated April 2016. One of the projects identified by the Workgroup was the 242 Wellfield Expansion Project, anticipated to yield an estimated 25,000 acre-feet annually. Anticipated completion date for this project is Spring 2019. As of the end of FY 2017, a majority of the east-west alignment had been completed, which included upgrade and installation of line. Design for the north-south alignment is expected to be completed by July 15, 2017.





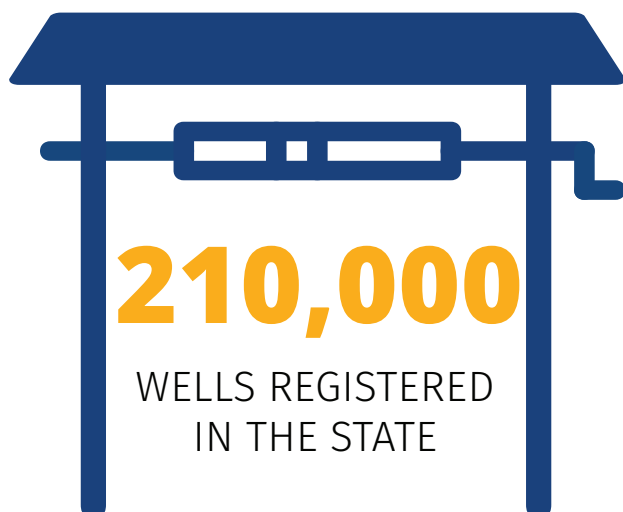
"A farmer adjusts siphon tubes on furrow irrigated lettuce near Phoenix, AZ." by Tim McCabe

GROUNDWATER PERMITTING AND WELLS

The Groundwater Permitting and Wells Unit issues groundwater withdrawal permits, processes conveyances of groundwater rights and notices of intention to drill, deepen, replace, modify and abandon wells, well driller licenses, and manages and maintains a registry of groundwater rights and well information.

Drilling a well anywhere in the state requires that a Notice of Intention to Drill application to be filed with ADWR and also requires the well to be constructed in conformance with ADWR's minimum well construction standards.

The Groundwater Permitting and Wells Unit receives and processes the highest volume of applications throughout ADWR. ADWR continues to improve the process on the issuance of Notice of Intention to drill, deepen, replace or modify and abandon well applications (NOI). The objective is to decrease the time frame for processing applications. ADWR received 3,079 applications last fiscal year and received 3,005 applications this fiscal year. The average number of days it took to process an application was 5.61 days. Currently there are 210,000 wells of record registered with ADWR and a total of 197,966 well documents imaged for public review. Additional improvement projects under construction include developing a tool that will allow Well Drillers Logs and Reports to be filed online. This project will not only benefit well drillers by making the reporting process more user-friendly, but it will also eliminate the amount of time required by staff to input the data submitted and scan and upload reports to ADWR's online imaged records database. During FY 2017 ADWR received, processed and imaged 1,703 well driller logs and reports.



GROUNDWATER MANAGEMENT

To address groundwater depletion in the state's most populous areas, the state Legislature enacted the Groundwater Code in 1980, and directed ADWR to implement its provisions. The goal of the Code is twofold: 1) to control severe groundwater depletion and 2) to provide the means for allocating Arizona's limited groundwater resources to most effectively meet the state's changing water needs.

ACTIVE MANAGEMENT AREAS

Areas where groundwater depletion was most severe were designated as Active Management Areas (AMAs). There are five AMAs: Prescott, Phoenix, Pinal, Tucson, and Santa Cruz.

These areas are subject to regulation pursuant to the Groundwater Code. To meet the statutory requirements of the Code, management goals were established for each AMA. In the Phoenix, Prescott, Tucson and Santa Cruz AMAs, the management goal is to achieve safe-yield by the year 2025.

Safe-yield is accomplished when, on average, no more groundwater is being withdrawn than is being replaced annually. In the Pinal AMA, where the economy is primarily agricultural, the management goal is to preserve that economy for as long as feasible, while considering the need to preserve groundwater for future non-irrigation uses. In addition to maintaining its safe-yield status, the Santa Cruz AMA goal is to prevent local water tables from experiencing long-term decline.

Each AMA carries out its programs in a manner consistent with these goals while considering and incorporating the unique character of each AMA and its water users. One tool to assist the AMAs to achieve their goal is the adoption of a series of five groundwater-management plans to be implemented in sequence from 1980 through 2025.

During this fiscal year, ADWR continued with the development process of the Fourth Management Plans (4MPs). The proposed Tucson AMA 4MP was adopted; the draft 4MP for the Pinal AMA was presented to the public for comment; and the management plans for the Phoenix and Santa Cruz AMAs are being compiled.



FIGURE 2. ACTIVE MANAGEMENT AREAS & NON-IRRIGATION EXPANSION AREAS

IRRIGATION NON-EXPANSION AREAS

Areas where groundwater depletion was less severe were designated as Irrigation Non-Expansion Areas (INAs). These lands - which had been legally irrigated at any time between January 1, 1975 and January 1, 1980 - may continue to be irrigated. There are three INAs: Joseph City INA, Douglas INA and the Harquahala INA.

ANNUAL WATER USE REPORTING

Each right or permit holder in the five Active Management Areas (AMAs) and three Irrigation Non-Expansion Areas (INAs) who pumps groundwater from a well over 35 gallons per minute in capacity, or who uses water pursuant to a right or permit, must file an annual water use report by March 31st of each year. Withdrawal Fees collected in AMAs are apportioned into the conservation funds and water bank funds for use in the AMA in which the fees were collected.



92%

ANNUAL WATER USE REPORTS FILED



5,623

ANNUAL WATER USE REPORTS PROCESSED & IMAGED



\$5,313,581

GROUNDWATER WITHDRAWAL FEES COLLECTED



Verde River, Fort McDowell Yavapai Nation by Chris English

SURFACE WATER

The Surface Water Program issues permits and certificates for rights to use surface water within the State of Arizona (excluding the Colorado River), processes assignments of surface-water rights and claims, and manages and maintains a registry of rights and claims.

EFFICIENCY IMPROVEMENTS

The Surface Water Permitting Unit continued making improvements to ADWR's Surface Water database to enhance the efficiency of entering, storing and retrieving data by customers and administrators. These improvements - in addition to the automation of applications and forms, and the acquisition of one more staff person - allowed the Surface Water Permitting Unit to reinstate the Statement of Continuing Use (SCUR) program required by statute. SCUR forms are now fully automated, which allows staff to easily generate, send, track and enter the responses into the unit's database designed.

The improvements to the database and the automation of applications and forms, including its accessibility by customers, has enabled staff to effectively and efficiently track and process applications, SCURs, and requests for amendments resulting in the reduction in the time required to issue permits, certificates of water rights, statement of claimants, and public notices.



HYDROLOGY SUPPORT

ADWR hydrologists serve as the technical arm of the ADWR, collecting and analyzing statewide water resource data and maintaining the state's Groundwater Site Inventory (GWSI) database. Hydrologic conditions are calculated and analyzed in preparing reports in response to legislative and judicial requests, public inquiries and water management planning efforts. ADWR hydrologists are often assigned to work on the scientific components of specific research projects and are also consulted in making determinations on permit applications.

ADWR prepares regional groundwater models that frequently serve as the basis for evaluating water management alternatives and the projected impacts of proposed development in the state. These models are provided to the water-using community, their technical representatives, and the public and commonly serve as the foundations for applications under the Assured and Adequate Water Supply Program.

ADWR hydrology field staff routinely make manual groundwater level measurements at over 1,800 "Index" wells throughout the state. Additionally, the state Legislature has supported ADWR efforts to obtain more groundwater data around the state through the Automated Monitoring Initiative. This groundwater data-collection effort relies on radio telemetry and satellite technology to obtain water level measurements in areas of the state where groundwater information is lacking.

ADWR also collects micro-gravity data to monitor changes in groundwater storage in the Pinal and Phoenix Active Management Areas.

ADWR is the State Agency tasked to monitor land subsidence. Land subsidence is a regional problem where groundwater pumping has exceeded the natural recharge of the groundwater, resulting in declining groundwater levels. Land subsidence has altered natural drainage patterns, causing flooding in new areas where flooding hadn't previously occurred. Understanding where land subsidence is occurring helps groundwater modelers predict future land subsidence from groundwater declines. It also helps planners and engineers in their efforts to mitigate land subsidence. ADWR has the largest statewide land-subsidence monitoring program in the country using satellite based synthetic aperture radar data which is processed by ADWR using interferometry (InSAR). ADWR is recognized as a leader with InSAR and the State of California is recommending that its own InSAR program be modeled based on ADWR's InSAR program.

HIGHLIGHTS FOR FY 2017

1 | PUBLICATIONS AND REPORTS

- Land Subsidence Monitoring Report Number 3
- Wilcox Model Report Final Draft
- Statewide Water Level Change Report FY16
- Created 37 new land subsidence maps through June 2017. There are now 403 maps available for download on the ADWR website

2 | STAKEHOLDER OUTREACH

Staff participated in various technical stakeholder groups and projects including:

- Organized hydrology-related field trip for Prescott Groundwater Users Advisory Council Members and area Stakeholders; LIC Sub-basin in the Prescott AMA, December 2016
- General Modeling, Hydrology and Data presentation to University of Arizona students and staff, Cottonwood, May 2017
- Multi-Agency CA1 Project (City of Prescott, Prescott Valley and SRP), August 2016
- WESTCAPs Modeling Project, West-Valley Cities, January and February 2017
- Presentation on Santa Cruz AMA Modeling and Data Collection Activities, Santa Cruz River Research Days, March 2017, Tucson
- Presentation on Santa Cruz AMA Modeling and Data Collection Activities, IBWC, June 2017, Green Valley
- A joint stream gaging project on Oak Creek with the Nature Conservancy, Arizona State Parks, Arizona Game and Fish, Salt River Project, June, 2017
- Hydrologic presentation at Arizona Water Initiative West Basins meeting February, 2017

3 | LAND SUBSIDENCE PRESENTATIONS DURING FY 2017 AT:

- Tucson AMA Groundwater Users Advisory Council
- California Spatial Reference Center Executive Committee
- California Land Surveyors Association
- Arizona Hydrological Society
- Mexican Geophysical Union
- American Geophysical Union
- Western Regional Height Modernization Group
- Association of Environmental and Engineering Geologists
- United Nations Educational, Scientific and Cultural Organization (UNESCO) Land Subsidence Group
- Field Services Section Basic Data Unit

4 | FIELD SERVICES BASIC DATA UNIT ACTIVITIES

- Conducted water level measurements at over 3,090 wells sites throughout the state (index wells and sweep wells)
- Conducted groundwater basin sweeps in the West Basins Planning Area (Ranegras Plain, McMullen Valley, Butler Valley, Tiger Wash and Harquahala groundwater basins) and the Prescott AMA, Big Chino, Verde Valley and Verde Canyon Sub-basins of the Verde River Basin
- Annual Statewide Monitoring meeting held in the Summer of 2016 – facilitated agency-wide coordination with hydrologic monitoring and other field data collection activities needed in support of Agency Programs such as Adjudication, AAWS, Recharge, Surface Water, Wells, Water Management, Water Initiative, Colorado River and many others internally, such as groundwater-modeling functions. Identified hydrologic monitoring and data-collection needs from an Agency perspective, assisted with prioritizing not only immediate field work needed, but also with data-collection activities on a 10-year plan
- 3rd Party Water Level Portal – Received over 4,600 water levels from outside entities into Groundwater Site Inventory (GWSI); ADWR's scientific database utilized extensively by ADWR Programs as well as external customers including private and public sectors
- Received 2-year grant to participate in USGS National Groundwater Monitoring Network providing water levels collected at ADWR Index wells
- Continued to participate in Drought Monitoring Technical Committee and provided groundwater data for two automated well sites for qualitative drought status consideration within watersheds with little or no streamflow or precipitation data.
- Continued to upgrade and maintain ADWR's Groundwater Site Inventory (GWSI) database.
- Provided technical support for ADWR AMS Agency Breakthrough Project (Improved Well Information)
- Capped a hazardous, large-diameter open well

5 | AUTOMATED GROUNDWATER MONITORING UNIT (TRANSDUCER UNIT)

- Performed maintenance, repairs and downloads at approximately 130 automated water level monitoring sites throughout the state, 79 of the automated sites are on radio telemetry.
- Installed new automated equipment at site in Chiricahua National Monument.

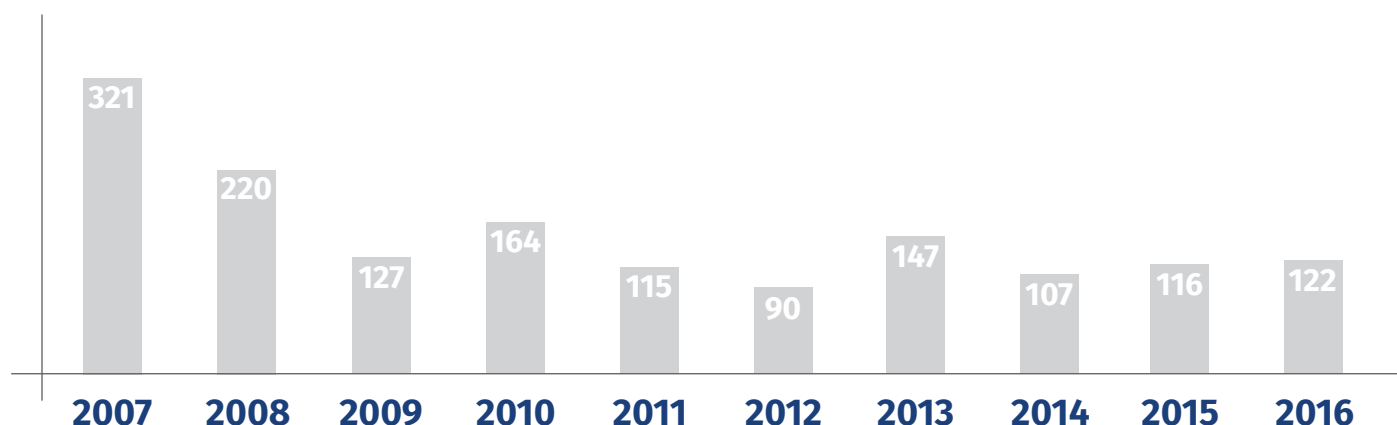
6 | SURVEY AND GEOPHYSICS UNIT

- ADWR collected InSAR data over more than 42,000 square miles, continuing the monitoring of more than twenty-five individual land subsidence features that cover an area of approximately 3,400 square miles
- Completed GPS surveys for monitoring current and historical land subsidence in the following groundwater basins: McMullen Valley, Harquahala Valley, Phoenix AMA, Tucson AMA, Pinal AMA, Willcox, Douglas INA, and San Simon sub-basin
- Started a new round of micro-gravity aquifer storage change monitoring measurements in the Phoenix AMA

GROUNDWATER MODELING SUMMARIES FOR FY 2017

- **Phoenix AMA Model / Salt River Valley (PHX-SRV) Groundwater Flow Model:** Began model calibration of the transient stress periods from 1900 to 1983. Updated the hydrology chapter of the 4th Management Plan for the Phoenix AMA and provided updated water budget values for the 4th Management Plan
- **Pinal AMA Model (2017):** Provided modeling support using the ADWR Pinal AMA groundwater flow model to the AWS program and Legal Division related to AWS applications in the Pinal AMA. Started working on modifications and recalibration of Pinal model including recommendations from the 2016 model peer review by SS Papadopoulos & Associates
- **Tucson AMA Groundwater Flow Model:** Provided technical assistance for the Tucson GUAC and the AMAs Safe Yield Task Force. Continued to provide technical support to the Bureau of Reclamation's Lower Santa Cruz Basin Study (LSCBS) committee. Updated model grid and model calibration to include pumpage, recharge, and stream-flow data from 2010 to 2015. Reviewed the hydrology chapter of the 4th Management Plan and provided updated water budget data to Water Management for the Tucson AMA
- **Willcox Basin Model (2016-2017):** Finalized the calibration of the Willcox Model and associated model report. Included recommendations from 2016 model peer review by SS Papadopoulos & Associates
- **Santa Cruz AMA Groundwater Flow Model:** Finalizing the calibration for the Micro-basin and SCAMA-North model through 2015. Providing technical assistance for Water Management (Fourth Management Plan).
- **Prescott AMA Groundwater Flow Model:** Provided technical assistance for the ADWR Legal Division, regarding an Administrative Hearing associated with Application for Analysis of Assured Water Supply
- **San Simon Sub-Basin Groundwater Flow Model:** Continuing to refine the model calibration by testing alternative conceptual models.
- **Technical modeling support for May 2017 ADWR Demonstration Project Report:** Response to Cone of Depression Comments: Upper San Pedro Sub-Watershed

ASSURED AND ADEQUATE WATER SUPPLY DETERMINATIONS 2007 - 2016



ASSURED AND ADEQUATE WATER SUPPLY PROGRAM

The Groundwater Code established the Assured and Adequate Water Supply Programs to conserve and extend groundwater supplies and ensure water availability of new developments for the future. Requirements under these programs serve to advise consumers of subdivided land of the long-term available water supply.

Arizona's Assured and Adequate Water Supply Programs are designed to preserve groundwater resources and promote long-term water supply planning. In Active Management Areas (AMA's) this is accomplished through regulations that limit the use of groundwater by new subdivisions that require a "Certificate" of assured water supply and by "Designated" Water Providers that have demonstrated an assured water supply for their entire service area. Rules associated with this program require the use of renewable supplies, such as reclaimed water, surface water, and/or Colorado River water delivered via the Central Arizona Project (CAP).

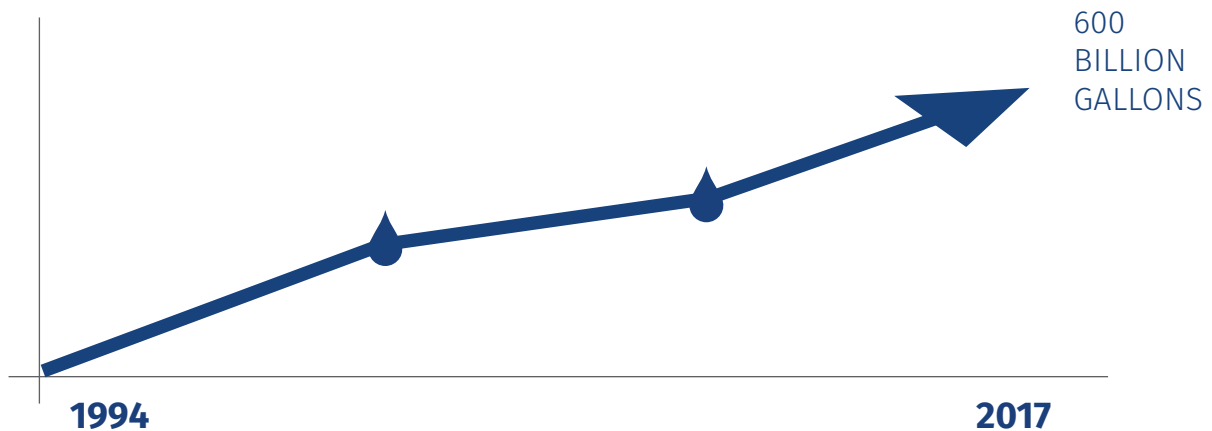
Outside of AMA's, the Adequate Water Supply Program also provides consumer protection by requiring developers to demonstrate that sufficient water supplies are available for new subdivisions prior to sale or disclose an "inadequate" supply. The Adequate Water Supply Program does not prevent the sale of property when a 100-year supply is not available unless the city, town, or county in which the subdivision is located has adopted the mandatory water adequacy ordinance.

For developers within mandatory adequacy jurisdictions, an adequate water supply for 100 years must be demonstrated before lots can be sold. Cochise and Yuma Counties and the Towns of Patagonia and Clarkdale have adopted the mandatory water adequacy ordinance.



Phoenix, Arizona

GROWTH IN PERMITTED CAPACITY FOR UNDERGROUND WATER STORAGE IN ARIZONA

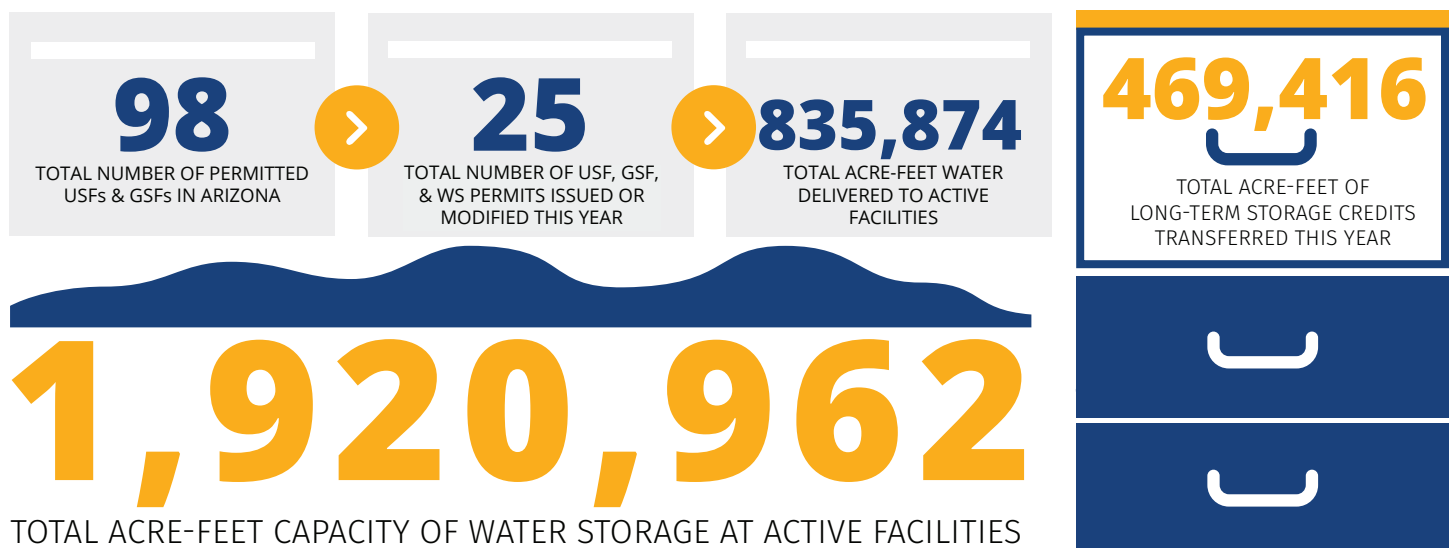


UNDERGROUND WATER STORAGE, SAVINGS, & REPLENISHMENT PROGRAM

The Underground Water Storage, Savings, and Replenishment (Recharge) Program promotes the use of renewable water supplies, particularly Arizona's entitlement to Colorado River water, while reserving groundwater through a flexible and effective regulatory program for the underground storage, savings and replenishment of water. The goals of the Recharge Program are to promote the use of renewable supplies; to augment the water supply; to help reduce groundwater overdraft; to provide for the efficient use of all water resources by allowing water to be "transported" by storing water in one location, but recovering a like quantity elsewhere; and to accommodate seasonal demand for water through recharge and recovery.

HIGHLIGHTS FOR FY 2017

- Live queries of active facilities, stored water types, and storage volumes were added to the ADWR website
- Developed tool that distributes automatic confirmation emails to both the buyers and the sellers Long-Term Storage Credit transfers
- Updated maps of the active management areas detailing locations of underground groundwater storage facilities





C.C. Cragin (Blue Ridge) Reservoir

ADJUDICATION SUPPORT

The State of Arizona is conducting general stream adjudications of surface water rights in two major portions of the state: the Gila River System and Little Colorado River System. Adjudications are judicial proceedings conducted in State Superior Court for Maricopa and Apache Counties to determine the nature, extent and relative priority of the water rights of all persons in each river system and source.

This includes surface water rights and claims to surface water based upon both state and federal law. The Adjudication Support Program investigates claims for water rights; publishes comprehensive Hydrographic Survey Reports for watersheds and federal reservations, and prepares technical reports on other issues and factual matters as requested by the adjudication court.

This program also processes, maintains and updates information related to statements of claimant (SOC) filed by water users in the adjudication court proceeding. In addition, based on information in ADWR's records, this program notifies new water users that the adjudication proceedings are underway and provides information about how to participate in the court process through the mailing of new use summons.

ADJUDICATION ADMINISTRATIVE SUPPORT UNIT

- Served new use summonses to persons that may have initiated new water uses by filing notices of intent to drill new wells, filed late well registrations for existing wells, or filed new surface water right applications during the previous calendar year
- At the end of each fiscal quarter, submitted the completed statements of claimants with filing fees respectively to the Superior Courts of Maricopa and Apache Counties
- Provided administrative support to the Special master as requested
- Reviewed the Statement of Claimant database for the San Pedro River Watershed and corrected the locations on numerous SOC's so that they would be accessible to the GIS geodatabase for future investigations

HIGHLIGHTS FOR FY 2017

1 | GILA RIVER ADJUDICATION

- **In re PWR 107 Claims:** ADWR reviewed the proposed abstracts prepared by the San Carlos Apache Tribe and the United States and filed a report recommending that the Court approve the abstracts.
- **In re Subflow Technical Report, San Pedro River Watershed - Cone of Depression Test:** On January 27, 2017, the Arizona Department of Water Resources filed a Demonstration Project Report that included a Cone of Depression Test Methodology for the San Pedro River Watershed ("Report"). On March 15, 2017, a status conference was held to schedule the proceedings necessary to determine an appropriate Cone of Depression Test Methodology. At the status conference, counsel for the Arizona Department of Water Resources explained that the purpose of the test was to identify the wells to be included within the adjudication. During May 2017, the Arizona Department of Water Resources provided its response to the comments received in March 2017 from the parties and the parties will also file comprehensive objections and expert reports by August 18, 2017. The parties have also been requested to file proposals by the following week regarding a procedure to determine an appropriate methodology to demonstrate that a particular well is pumping subflow.
- **In re Fort Huachuca:** The trial for water claims made by the United States for the operation of Fort Huachuca was completed in February 2017 and the parties are currently in the process of completing the post-trial briefing.
- **In re Arizona Chapter of the Nature Conservancy:** Four contested cases have been initiated with respect to the claimant's uses of water from Aravaipa Creek which include claimed irrigation uses. The initial scheduling conference for these cases was held on May 18, 2017. ADWR has been providing administrative support to the Court in this matter.
- **In re Pomerene Water Users Association.** In 1994, the objections to water rights claimed for the water distributed by the Pomerene Water Users Association were considered in the context of this contested case. The parties were prepared to proceed to trial in 1995, but a stay imposed on many matters in the Gila Adjudication resulted in the vacating of the scheduled trial date. The Special Master has now issued an order to continue the adjudication of the water rights at issue. A status conference is scheduled for June 28, 2017.
- **In re Pima County:** On November 30, 2016, the Special Master issued draft abstracts for Pima County's claims for water that qualified for the de minimis expedited process and were included in the San Pedro Hydrographic Survey Report. The parties were permitted to file any proposed corrections by February 1, 2017. Based on the corrections filed, proposed abstracts were prepared and approved on March 27, 2017. Those proposed water right abstracts have been included in a partial catalog of water rights.
- **In re Sands Group of Cases:** This case consolidated claims asserted by a number of parties for stock watering, and certain stockponds and domestic water uses that were expected to be adjudicated using an expedited process. In addition to water quantity and priority date, water right characteristics include a legal description of the place of use and the point of diversion. On March 24, 2017, the party who had volunteered to take the lead in the case filed 76 draft abstracts for one domestic use, 28 stockponds and 47 stock watering uses. The legal descriptions for the one domestic use and 27 stockponds matched the descriptions provided by ADWR in the watershed file reports or the legal descriptions in the Abstracts and Matrices filed by the parties on November 19, 1993 (1993 Matrices). With respect to the 47 stock watering uses, 21 legal descriptions matched ADWR's descriptions or the 1993 Matrices. Of the remaining draft abstracts, 67% reported the legal descriptions for stock watering using a different approach than that adopted by ADWR. On April 20, 2017, Mr. H.T. Hendrickson, Jr., another party, filed 13 draft abstracts. In his report, Mr. H.T. Hendrickson, Jr., described a methodology for the preparation of legal descriptions using Google Earth to obtain the GPS coordinates of the claimed water uses. He converted the GPS coordinates to legal descriptions using legallandsurvey.com which he then field checked for accuracy. Mr. Hendrickson reported accuracy within approximately three seconds. As in the first set of abstracts, the legal description for the domestic use confirmed the watershed file report prepared by ADWR. The legal descriptions for all ten of the stockponds matched the descriptions in the watershed file reports. Again, as in the first case, the legal descriptions for stock watering were not uniformly consistent with the descriptions provided by ADWR. A status conference was scheduled for May 24, 2017, to address the issues raised by the water right abstracts and proposed protocols prepared by the party who took the lead for the preparation of draft abstracts. On April 26, 2017, the Special Master vacated all scheduled proceedings following the approval of SB 1412.

On April 24, 2017, SB 1412 was approved. It amended A.R.S. §45-257 to provide that certain claims for wells, stockponds and stock watering shall be deferred until all other claims in the specific subwatershed have been determined by the superior court. An exception in SB 1412 is created for claimants who also have claims for water that do not qualify as "Small Claims".

- **In re Redfield Canyon Wilderness Area:** The court has made decisions on multiple motions in limine and for summary and partial summary judgment during the first four months of 2017. The parties have filed a joint pre-trial statement in anticipation of a trial scheduled for May 2017.
- **In re Redfield Canyon State Claims:** This matter was initiated to adjudicate the claims for water use in the Redfield Canyon analyzed by the Arizona Department of Water Resources in seven watershed file reports. The initial scheduling conference occurred on May 24, 2017.

2 | LITTLE COLORADO RIVER ADJUDICATION

- **Hopi HSRs:** All objections to the final Hopi HSR prepared by the Arizona Department of Water Resources were due on June 15, 2016. At a hearing on July 12, 2016, the parties addressed a litigation schedule to decide the present and future water rights of the Hopi Tribe. The Special Master issued an order on August 25, 2016, that set discovery deadlines and set the matter for trial in September 2018.
- **Navajo HSRs:** A hearing was held on July 12, 2016, to begin the process of adjudicating the water rights of the Navajo Nation.

ENGINEERING

The Engineering Section manages floodplains and jurisdictional dams in the state in order to reduce the risk of loss of life and property resulting from flooding or dam failure. The Engineering Section consists of two groups – Flood Warning & Floodplain Management, and Dam Safety.

DAM SAFETY

The Dam Safety Program oversees the safety of jurisdictional dams in Arizona by reviewing and approving permits for construction of new dams and repairs to existing dams, inspecting dams and working with dam owners to remediate safety deficiencies.

HIGHLIGHTS FOR FY 2017

- ADWR received a grant for \$67,704 from the National Dam Safety Program for dam safety activities in the State. The grant is administered by FEMA and is part of the National Dam Safety Program.
- ADWR staff inspected all 108 high hazard potential dams under ADWR's jurisdiction. Staff identified safety deficiencies requiring correction at 30 dams, including 16 dams that were classified as being unsafe, non-emergency.
- Staff received, reviewed, and approved the application for repair of White Tanks Flood Retarding Structure (FRS) No. 4, Phase 2. This phase focused on modifications to the emergency spillways, and raising and extending the embankment. ADWR provided construction oversight until the end of June 2017 when the construction was completed.
- Staff received, reviewed, and approved the application for alteration to the Buckeye FRS No. 1 - Phase 2A rehabilitation work. This phase of construction work focused on the installation of a full-depth central filter, the replacement of the finger drain material, the removal of an existing irrigation outlet, construction of a thicken embankment section, and construction of permanent access ramps.
- ADWR also received, reviewed, and approved an application (Change Order No. 8) for additional work that included installation of a full-depth central filter above the existing principal spillway conduit and a new reinforced concrete principal spillway intake riser. ADWR provided construction oversight until June 2017 when construction was completed for both Phase 2A and Change Order No. 8.
- In January 2017, ADWR received an application (Change Order No. 10) for additional work that would include raising a portion of a berm that connects to the existing dam and closing off a channel with a box culvert system to regulate the amount of flow to the Buckeye FRS No. 1 flood pool. Staff provided review comments and the dam owner is in the process of developing responses to our review comments.
- Staff received, reviewed, and approved an application for alteration to the Vineyard FRS, Phase 2A rehabilitation work. The application was approved on February 22, 2017. The work under this application pertained to rehabilitating the northern 2 miles of the dam and included raising the dam by constructing an upstream buttress, installation of an upstream filter with underlying geotextile, construction of an upstream low flow channel, abandonment of the existing irrigation outlets, construction of access ramps, and placement of rock mulch on the upstream and downstream slopes. ADWR is currently providing regulatory oversight for the construction activities.
- ADWR has an IGA with the Flood Control District of Maricopa County (FCDMC) to provide pre-application reviews for rehabilitation/repair projects at dams owned and operated by FCDMC. As part of this IGA, ADWR provided pre-application reviews for design projects at Buckeye FRS No. 1 Phase 2B, Cave Buttes Dam, McMicken Dam, and Powerline, Vineyard, and Rittenhouse structures.
- Construction to repair drainage issues at the 64th Street Reservoir Dam 1-ES1-3 was completed in June 2017.
- ADWR provided regulatory oversight of repair of liner leakage at Plains LPG Dam and construction of a new access ramp.
- ADWR is coordinating with the Natural Resources Conservation Service (NRCS), Town of Fredonia, and their consultants on a rehabilitation design for Fredonia FRS in Coconino County. ADWR is reviewing the design documents and is planning to contribute participate as a financial partner for the proposed rehabilitation.
- ADWR has hired a consultant to prepare an Emergency Action Plan (EAP) for the Fredonia FRS. The current EAP is outdated and needs revision.
- ADWR is coordinating with the Natural Resources Conservation Service (NRCS), Florence Area Watershed Flood Control District (FAWFCD), and their consultants on a rehabilitation design for Florence FRS. The project is currently at 60%-90% design stage and ADWR is up-to-date in reviewing the design documents.
- ADWR Staff was invited to present on dam safety issues at the Arizona Floodplain Management Association 2017 in Tucson, Arizona.
- ADWR is coordinating Maricopa County Flood Control District and their consultants on a rehabilitation design for McMicken Dam. The project is currently at 60% design stage of Phase 1 and ADWR is up-to-date in reviewing the design documents. Phase 1 includes a relocated emergency spillway and principal outlet at the north end of the dam.

- Staff completed the re-design of the Dam Safety webpages.
- Staff reviewed and approved the application for repair of Clearwell Reservoir located in Pima County. The repair work is relining both cells of the reservoir to prevent leakage. The relining of cell #1 is complete and relining cell #2 is scheduled to begin this.
- Staff reviewed, and approved the application for repair of Millet Swale Dam located in Navajo County. The repair work consists of a dam raise, construction of a central filter, construction of a filter diaphragm, and construction of a spillway cutoff wall. Construction has not yet started.
- Staff reviewed 11 Emergency Action Plans (EAPs) for compliance with minimum State and Federal requirements. All jurisdictional high and significant hazard potential dams are required to have EAPs.

FLOOD WARNING AND FLOODPLAIN MANAGEMENT

Flood Warning & Floodplain Management programs reduce risk to life and property by assisting local flood control and floodplain management efforts. The Flood Warning Program coordinates with local communities, state and federal agencies for the planning, design, construction and operation of flood warning systems, operates and maintains field equipment, and hosts the statewide flood warning website (afws.org). The Floodplain Management Program coordinates the National Flood Insurance Program (NFIP) in Arizona, assists local communities participating in the NFIP through implementation of the federally-funded Community Assistance and Cooperating Technical Partners programs, and publishes state criteria for floodplain delineations at the local level.

HIGHLIGHTS FOR FY 2017

- ADWR was awarded \$120,000 as a federal grant from the U.S. Department of Homeland Security – FEMA as part of the Cooperating Technical Partners program. The program supports Risk Mapping, Assessment, and Planning (Risk MAP) activities intended to increase public awareness and reduce risk to life and property from flooding.
- Staff attended community outreach meetings with Apache Junction, Bisbee, Benson, Cochise County, Douglas, Flagstaff, Graham County, Huachuca City, Marana, Pima County, Sierra Vista and Tombstone to discuss all natural hazards - including flooding - and to develop future projects within strategic watersheds.
- Staff continued to coordinate with the Arizona Department of Emergency and Military Affairs (DEMA) pertaining to ADWR's role and involvement in the State Emergency Response and Recovery Plan (SERRP).
- Staff continued role as chair of the biannual Arizona Flood Warning System (AFWS) Multi-Agency Task Force (MATF) group meetings. The MATF includes staff from local, state and federal agencies involved in flood warning activities. The purpose of the meetings is to share flood warning information and to retain coordination among agencies.
- Staff performed maintenance of ADWR-owned flood warning gages located in Apache, Cochise, Coconino, Graham, Greenlee, La Paz, Santa Cruz and Yuma counties.
- ADWR was awarded \$158,593 as a federal cost-share grant from the U.S. Department of Homeland Security –FEMA in support of the Community Assistance Program for assistance to communities with their floodplain management programs.
- Staff presented information on the installation of manufactured homes in floodplains at the Arizona Office of Manufactured Housing (OMH) installer training workshops in Phoenix, Tucson and Flagstaff.
- Staff conducted community assistance visits (CAVs), including field tours of recent development in the FEMA 100-year floodplain and face-to-face meetings with floodplain management and building permit staff for: Camp Verde, Chandler, Cochise County, Gila County, Gilbert, Maricopa County, Payson, and Tucson. CAV is an onsite analysis and face-to-face visit with participating communities in the National Flood Insurance Program (NFIP) to gauge the effectiveness of the community's floodplain management process. It is a multi-step, multi-day activity that includes a review of issued permits for development within the Special Flood Hazard Areas (SFHAs), a Field Tour of the SFHA with community officials, review of as-built documentation, an Office Visit with staff of the community, including building officials, inspectors or other department staff that review permits for development, and preparation of an official CAV Report.
- Staff conducted a total of three floodplain management training workshops. The training workshops on the FEMA Elevation Certificate were presented in Flagstaff and Maricopa County, and the Substantial Improvement and Substantial Damage training workshop was presented in Maricopa County. Local floodplain administrators, building officials, engineers and registered land surveyors attended.
- Staff conducted community assistance contacts (CACs), including brief meetings to help NFIP communities evaluate their floodplain management programs, and to offer training and other assistance for: Carefree, Colorado City, Fredonia, Guadalupe, Jerome, Kearny, Page, South Tucson, Tombstone, and Youngtown. The purpose of a CAC is to update Town staff on state and federal floodplain management program requirements, provide technical and/or programmatic assistance and address Town staff concerns regarding floodplain management.
- Staff provided general technical assistance related to floodplain management to several communities including Apache County, Apache Junction, Benson, Bisbee, , Camp Verde, Casa Grande, Chandler, , Cochise County, Coconino County, Cottonwood, Douglas, , Eagar, Florence, Gila Bend, Gila County, Gilbert, , Globe, Goodyear, Graham County, Greenlee County, Huachuca City, La Paz County, Maricopa County, Miami, , Navajo County, , Oro Valley, Payson, Peoria, Phoenix, Pima County, , Pinal County, Prescott, , Quartzsite, , Sahuarita, Santa Cruz County, Scottsdale, Sierra Vista, , Snowflake, Springerville, St. John's, Star Valley, Superior, Taylor, Tucson, Wickenburg, Willcox, Winslow, Yavapai County, City of Yuma, and Yuma County.

REGIONAL PLANNING

ADWR continues to be active in regional water resource planning. Regional planning efforts in the last year included data collection and technical studies of specific areas throughout the State and within the Colorado River Basin, conducted through contractual agreements with the United States Geological Survey (USGS) and the Wyoming Water Development Commission.

ADWR works cooperatively with the USGS in many of its program areas. With respect to regional planning, ADWR has provided funding to the USGS in the last fiscal year for the following: to complete irrigation field verification in a number of groundwater basins within the state; to collect hydrologic data in support of improving the understanding of the hydrologic system of the Middle Verde River Watershed; and to collect other statewide water use information.

ADWR also participated in efforts associated with collection of data associated with weather modification activities. These efforts were undertaken by the Wyoming Water Development Office and will provide important baseline data to the other Colorado River Basin states as they begin to evaluate and develop their own weather modification projects.

During the last fiscal year, ADWR began participation in the Fort Huachuca Sentinel Landscape Restoration Partnership to provide technical assistance to facilitate cooperative projects that will improve water quantity and help preserve open space for the missions of Fort Huachuca. ADWR also provided technical assistance and funding to the University of Arizona, Water Resources Center to produce the newly updated Arizona Water Map.

RURAL WATER STUDIES

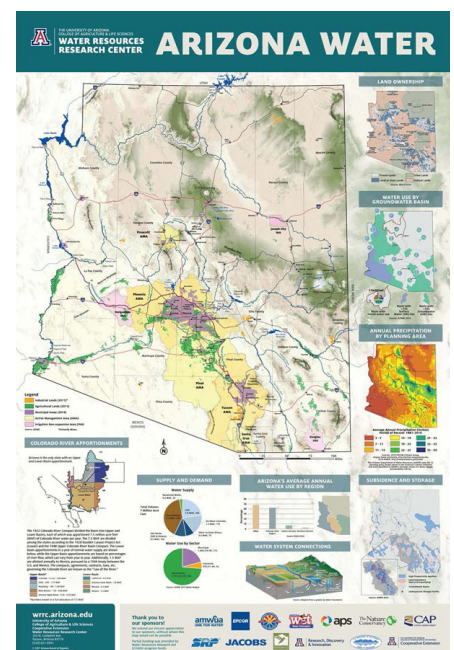
ADWR actively participates in six rural watershed partnership groups that represent water interests outside of the AMAs. ADWR provides technical and policy advice and assistance to these groups and attends multiple meetings per month associated with the governing bodies, executive committees and technical advisory committees associated with the watershed partnerships.

The activities of the different rural watershed groups vary greatly. In areas such as the Coconino Plateau (Flagstaff and surrounding areas), the Verde River (Clarkdale to Camp Verde), the Yuma area and other Colorado River cities, and southeast Arizona, significant water resources planning is necessary to meet projected water supply needs.

In addition to participation with the rural watershed partnership groups, ADWR also participated in various studies, analyses and data collection activities in rural areas. ADWR has a Special Line Item Appropriation that funds personnel and water resources data collection and investigation assisting the rural communities with long-term planning and management programs. These data collection efforts and their expansion directly support the expanded monitoring strategy identified in Arizona's Strategic Vision for Water Supply Sustainability.



The San Francisco Peaks as seen from the Mormon Lake overlook by Gary Garner



TRIBAL SETTLEMENT NEGOTIATIONS

ADWR represents the State of Arizona in tribal water rights settlements.

HUALAPAI TRIBE

The Bill Williams River Water Rights Settlement Act of 2014 (“Act”) settled the Hualapai Tribe’s water rights claims in the Bill Williams River Watershed, south of the Tribe’s main reservation, with the United States and Freeport Minerals Corporation (“Freeport”). Although the settlement did not settle all of the Tribe’s water rights claims in Arizona, including its claims for its main reservation, it contains provisions intended to facilitate a later settlement of those claims. Under one of the provisions, Freeport made a financial contribution that will be used by the Tribe to purchase Colorado River water rights that may be used to provide water for the Tribes’ main reservation as part of a future settlement of the Tribe’s remaining water rights claims in Arizona.

During FY17, the Tribe, ADWR and other State parties worked out a proposed settlement of the Tribe’s remaining water rights claims in Arizona, including its claims to water from the Colorado River, the Verde River and the Bill Williams River. Federal legislation approving and authorizing the settlement was introduced in Congress by Senator McCain and Senator Flake on September 8, 2016 (S. 3300). The legislation was heard by the Senate Committee on Indian Affairs on September 14, 2016, but did not move forward after that. It is expected that the legislation will be reintroduced in Congress during the second half of 2017.

YAVAPAI-APACHE NATION

During the past year, ADWR has met with the Yavapai-Apache Nation to discuss negotiations for a settlement of the Nation’s water rights claims in Arizona. It is expected that negotiations for a settlement will be ongoing during the next year and will involve a number of other parties. Those negotiations will be confidential.

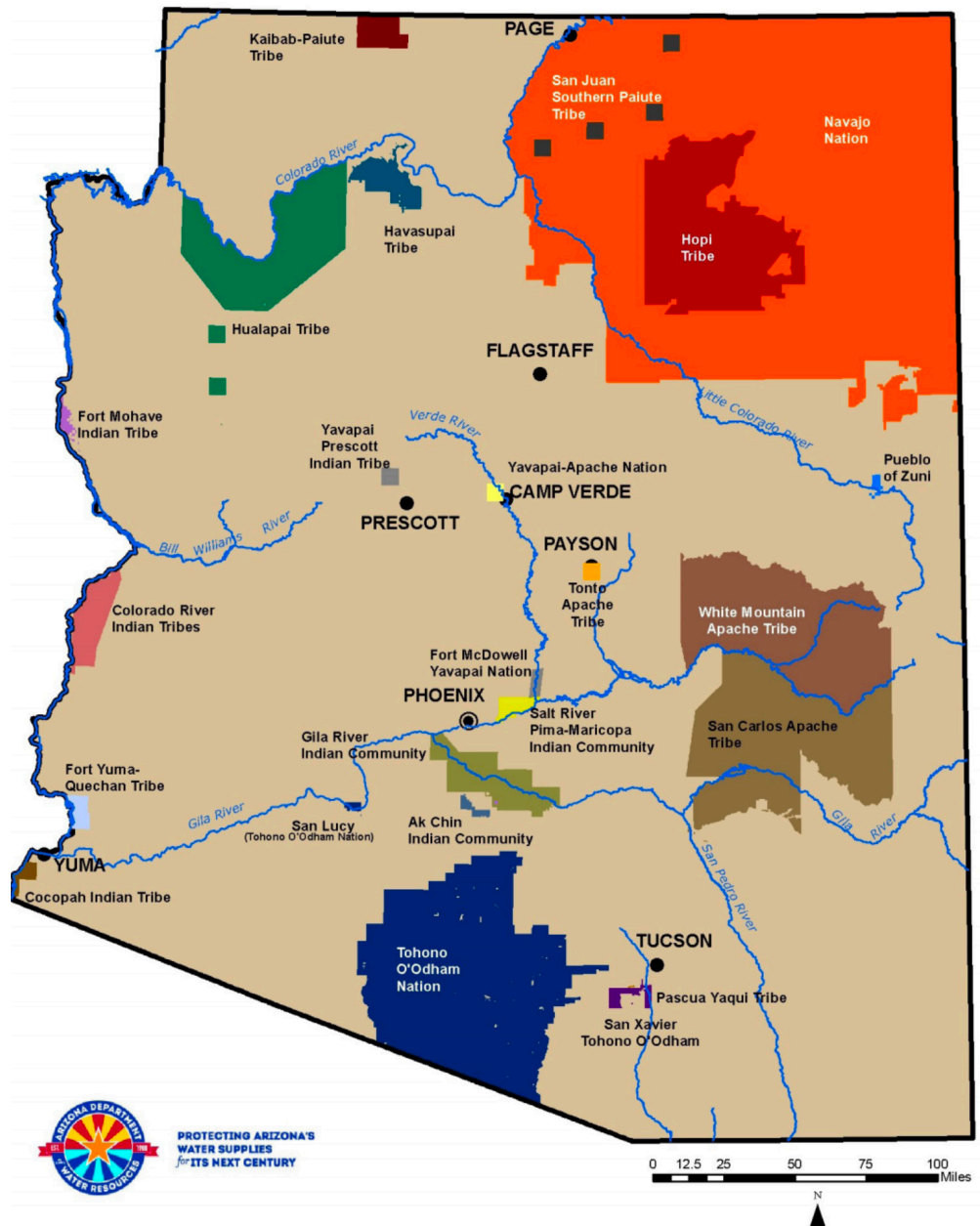


Figure 3. Tribal Communities in Arizona (ADWR)

